Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the Application:

Listing of Claims:

Claims 1-10 (canceled).

11 (new): A method for predicting IC_{50} concentrations for test compounds via a biological assay comprising:

(a) developing or identifying a biological assay capable of producing different percent inhibitions for compounds tested against a target at different known concentrations;

(b) for each of at least eleven known compounds, at least one of which is a positive control compound, performing the biological assay developed or identified in step (a) at three or more concentrations to determine the percent inhibition at each concentration;

(c) for each known compound, mathematically fitting a dose response curve to the concentrations and corresponding percent inhibitions determined in step (b) for that compound using regression techniques and, from the resulting dose response curve, determining the IC_{50} concentration and the percent inhibition at the preselected concentration X;

(d) using regression techniques, determining the mathematical relationship between the IC_{50} concentrations and corresponding percent inhibitions at the preselected concentration X determined in step (c) for the known compounds, such relationship being of the form

$IC_{50} = \exp\{a + b \cdot (\text{percent inhibition at concentration X})\}$ where a and b are constants;

(e) performing the biological assay using the target on one or more test compounds at concentration X to determine the percent inhibition for each test compound at concentration X; and

(f) using the mathematical relationship determined in step (d), calculating the IC_{50} for each test compound from the percent inhibition determined at concentration X for that compound in step (e).

12 (new): The method of claim 11 wherein the dose response curve is the Hill function of the form

$$\text{percent inhibition} = \frac{100}{1 + \left(\frac{IC_{50}}{\text{concentration}}\right)^h}$$ where h is a constant.

13 (new): A method for predicting IC_{50} concentrations for test compounds via a biological assay from a predetermined mathematical relationship between IC_{50} concentration and percent inhibition at a preselected concentration X that was determined by:

(i) developing or identifying a biological assay capable of producing different percent inhibitions for compounds tested against a target at different known concentrations;

(ii) for each of at least eleven known compounds, at least one of which is a positive control compound, performing the biological assay developed or identified in step (i) at three or more concentrations to determine the percent inhibition at each concentration;

(iii) for each known compound, mathematically fitting a dose response curve to the concentrations and corresponding percent inhibitions determined in step (ii) for that compound using regression techniques and, from the resulting dose response curve, determining the IC_{50} concentration and the percent inhibition at the preselected concentration X; and

(iv) using regression techniques, determining the mathematical relationship between the IC_{50} concentrations and corresponding percent inhibitions at the preselected concentration X determined in step (iii) for the known compounds, such relationship being of the form

$IC_{50} = \exp\{a + b \cdot (\text{percent inhibition at concentration X})\}$ where a and b are constants;

the method for predicting IC_{50} concentrations for test compounds comprising:

(a) performing the biological assay using the target on one or more test compounds at concentration X to determine the percent inhibition for each test compound at concentration X; and

(b) using the mathematical relationship determined in step (iv), calculating the IC_{50} for each test compound from the percent inhibition determined at concentration X for that compound in step (a).

14 (new): The method of claim 13 wherein the dose response curve is the Hill function of the form

$$\text{percent inhibition} = \frac{100}{1 + \left(\frac{IC_{50}}{\text{concentration}}\right)^h}$$ where h is a constant.

15 (new): A method for facilitating prediction of IC_{50} concentrations for test compounds via biological assay at a single preselected concentration X by first determining a mathematical relationship between IC_{50} concentration and percent inhibition at the preselected concentration X for known compounds, the method comprising:

(a) developing or identifying a biological assay capable of producing different percent inhibitions for compounds tested against a target at different known concentrations;

(b) for each of at least eleven known compounds, at least one of which is a positive control compound, performing the biological assay developed or identified in step (a) at three or more concentrations to determine the percent inhibition at each concentration;

(c) for each known compound, mathematically fitting a dose response curve to the concentrations and corresponding percent inhibitions determined in step (b) for that compound using regression techniques and, from the resulting dose response curve, determining the IC_{50} concentration and the percent inhibition at the preselected concentration X; and

(d) using regression techniques, determining the mathematical relationship between the IC_{50} concentrations and corresponding percent inhibitions at the preselected concentration X determined in step (c) for the known compounds, such relationship being of the form

$IC_{50} = \exp\{a + b \cdot (\text{percent inhibition at concentration X})\}$ where a and b are constants;

the mathematical relationship then being usable to predict the IC_{50} concentration of a test compound from the percent inhibition determined for that compound at the preselected concentration X in the biological assay tested against the target.

16 (new): The method of claim 15 wherein the dose response curve is the Hill function of the form

$$\text{percent inhibition} = \frac{100}{1 + \left(\frac{IC_{50}}{\text{concentration}}\right)^{h}}$$ where h is a constant.

17 (new): The method of any of claims 11 to 16 wherein the biological assay is an assay for drug-drug interactions related to cytochrome P450 (CYP).

18 (new): The method of any of claims 11 to 16 wherein the target is selected from the group consisting of CYP2C9, CYP2D6, CYP3A4, CYP1A2, and CYP2C19.

19 (new): The method of any of claims 11 to 16 wherein the target is a biologically active protein.

20 (new): The method of any of claims 11 to 16 wherein the target is selected from the group consisting of enzymes, receptors, and transporters.

Amendments to the Drawings:

The attached sheet of drawings includes changes to remove the line numbers from the Figures, to which Examiner objected, and to correct the labeling on the y-axis of each of Figures 3, 5, 7 and 8. Additionally, Figures 1-12 were corrected to reflect acceptable margins.

Attachment: Replacement Sheets